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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,366	01/22/2001	Hiroshi Kanou	Q62818	8603

7590 09/02/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER
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DUDEK, JAMES A

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/765,366

Applicant(s)

KANOU ET AL.

Examiner

James A. Dudek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☒ Claim(s) 2 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by 5,500,750 ("750").

Per claim 1, 750 a reflection-type liquid crystal display comprising: a transparent first substrate [46]; a transparent electrode provided on said transparent first substrate [48]; a second substrate 31]; an insulator film which is provided on said second substrate and also on a surface of which is formed an uneven structure [42 and 42a]; a reflecting electrode which is provided on said insulator film in such a shape as reflecting said uneven structure [38]; and a liquid crystal layer sandwiched by a side of said transparent electrode formed on said first substrate and a side of said reflecting electrode provided on said second substrate [50]; wherein said insulator film includes a first insulating layer in which a large number of depressions are irregularly arranged which are isolated as surrounded by protrusions and a second insulating layer which covers said first insulating layer entirely [see 42a and 42, respectfully].

3. The reflection-type liquid crystal display according to claim 1, wherein said uneven structure is formed by a repetition of an irregular shape which is given in units of one picture element or more [see figure 5].

4. The reflection-type liquid crystal display according to claim 1, wherein said depressions and said protrusions each has a smooth sectional shape formed by melting [this is a product by process limitation, see MPEP 2100 and see figure 1 and 5].

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5. The reflection-type liquid crystal display according to claim 1, wherein: a liquid crystal driving switching element is provided on said second substrate; and said insulator film serves also as a protection film for said switching element [see figure 1, the insulating 42 which covers TFT 40].

6. The reflection-type liquid crystal display according to claim 5, at least one of said first insulating layer and said second insulating layer covers at least one of a drain wiring line and a gate wiring line of said switching element [42 covers the entire TFT and thus the gate and drain].

7. The reflection-type liquid crystal display according to claim 1, wherein at least one of said first insulating layer and said second insulating layer has photo-absorbing [see column 9, paragraph 3].

8. The reflection-type liquid crystal display according to claim 1, wherein: a liquid crystal driving switching element is provided on said second substrate; and a contact hole is formed in said insulator film for electrically interconnecting said liquid crystal driving switching element and said reflecting electrode [see column 9, paragraph 4].

9. The reflection-type liquid crystal display according to claim 1, wherein said first insulating layer is made of an organic or inorganic resin having photosensitivity [see column 9, paragraph 5].

10. The reflection-type liquid crystal display according to claim 1, wherein said second insulating layer is made of an organic or inorganic resin having photosensitivity [see column 9, paragraph 5].

***Allowable Subject Matter***

Claim 2 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach a reflection-type liquid crystal display according to claim 1, wherein said depressions are constructed by a part surrounded by a large number of *stripe-shaped* protrusions arranged irregularly.

Claim 15 is allowed because the prior art does not teach or suggest the transparent electrode on the first substrate and the reflecting electrode on the second substrate in contact and sandwiching the liquid crystal layer.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Response to Arguments***

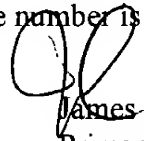
Applicant's arguments filed 6/24/03 have been fully considered but they are not persuasive. The sole argument is that the relied upon prior art does not teach "a liquid crystal layer sandwiched by a side of the said transparent electrode formed on said first substrate and a side of said reflecting electrode proved on said second substrate." However, this limitation does not exclude the electrodes from sandwiching other layers, such as alignment layers, and the liquid crystal layer simultaneously.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Dudek whose telephone number is 308-4782. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7721 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



James A. Dudek  
Primary Examiner  
Art Unit 2871

August 27, 2003